"Initiating the 2002 Mars Science Laboratory (MSL) Focused Technology Program"

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The Mars Science Laboratory (MSL) Project is an aggressive mission launching in 2009 to deliver a new generation of rover safely to the surface of Mars and conduct comprehensive in situ investigations using a new generation of instruments. This system will be designed to land with precision and be capable of operating over a large percentage on the surface of Mars. It will have capabilities that will support NASA's scientific goals into the next decade of exploration. The MSL Technology Program is developing a wide-range of technologies needed for this Mission and potentially other space missions. The MSL Technology Program reports to both the MSL Project and the Mars Technology Program (MTP). The dual reporting process creates a challenging management situation, but ensures the new technology meets both the specific MSL requirements and the broader Mars Program requirements.

MTP is a NASA-wide technology development program managed by the Jet Propulsion Laboratory (JPL) and is divided into a Focused Program and a Base Program. The Focused Technology Program addresses technologies that are specific and critical to near-term missions, while the Base Technology Program addresses those technologies that are applicable to multiple missions and which can be characterized as longer term, higher risk, and high payoff technologies. The MSL Technology Program is under the Focused Program and is tightly coupled to MSL's mission milestones and deliverables. The technology budget is separate from the flight Project budget, but the technology's requirements and the development process are tightly coordinated with the Project.

The Technology Program combines proven management techniques of flight projects with commercial and academic technology management strategies, to create a technology management program that meets the near-term requirements of MSL and the long-term requirements of MTP. This paper examines the initiation of 2002 MSL Technology program. Some of the areas discussed in this paper include technology definition, task selection, technology management, and technology assessment.